

### Remarks

The Applicants have amended the specification in a number of locations to correct typographical errors and to correct several mislabeled components in several areas so that they are consistent with other areas. For example, the "central guide roll" has been amended in paragraphs [0070], [0072] and [0073] to recite an "intermediate guide roll" so that those descriptions will be consistent with the earlier description in paragraph [0040] and Figs. 4, 6 and 7. Various other paragraphs have been amended to correct typographical errors. The Applicants have also amended the Abstract to place it into final condition for allowance. Entry into the official file is respectfully requested. A clean copy of the Abstract as amended on a separate sheet is enclosed for the Examiner's convenience.

The Applicants have amended Claim 1 to recite that the relationship between  $\alpha$  and  $\beta$  is  $\alpha + \beta < 180^\circ$ . Support may be found in Fig. 1 of the Applicants' drawing wherein angles  $\alpha$  and  $\beta$  are shown individually and collectively form an angle that is clearly less than  $180^\circ$ .

Claim 2 has been amended for clarification purposes by adding "at one portion" at the end of the claim.

Claim 6 has been cancelled. However, new Claim 21 has been added. New Claim 21 is similar to Claim 6 except that the previously claimed relationship between  $\alpha$  and  $\beta$  has been deleted from Claim 21. Claims 19 and 20 have also been cancelled.

Claims 7, 10 and 16 have been amended to depend from new Claim 21 instead of cancelled Claim 6.

Claim 11 has been amended to clarify the "bobbin rotation direction." This language is now clarified by reciting "reciprocating the traverse guide in the direction of a bobbin rotating shaft." Support may be found throughout the Applicants' specification such as in paragraph [0010], line 3; paragraph [0013], line 6; paragraph [0052], line 5 and the direction of arrow "P" in Fig. 3.

Claim 11 has further been amended to recite that the final guide roll has an outer diameter of 22 to 30 mm. Support may be found in the Applicants' specification in Examples 1 and 2. Entry of the above amendments into the official file is respectfully requested.

Claims 6-8, 10-11, 13-18 and 20 stand rejected under 35 USC §112 as being indefinite. The Applicants note with appreciation the Examiner's helpful comments with respect to changes to Claims 6 and 11. The Applicants respectfully submit that the rejection is now moot with respect to Claim 6. The Applicants have nonetheless heeded the Examiner's comments in presenting Claim 21 which is based on cancelled Claim 6. Also, Claim 11 has been changed to address the confusion

with respect to the traverse mechanism and the traverse guide. The Applicants therefore respectfully submit that all of Claims 7-8, 10-11, 13-18 and 20 are in full compliance with §112. Withdrawal of the rejection is respectfully requested.

Claim 11 stands rejected under 35 USC §103 as being obvious over Nojiri. The Applicants note with appreciation the Examiner's detailed comments hypothetically applying Nojiri against Claim 11. The Applicants nonetheless respectfully submit that Nojiri is inapplicable to Claim 11 for the reasons set forth below in detail.

The rejection frankly acknowledges that the Nojiri does not expressly disclose specific guides from the lack of contact between the fiber bundle and the final guide roll. The Applicants agree. However, the Applicants respectfully submit the Nojiri fails to disclose, teach or suggest additional subject matter recited in Claim 11. That is because the Applicants took a different path than Nojiri, in particular, and the general knowledge in the industry in general.

According to the Applicants' Claim 11, while a fiber bundle is pulled alternately in the roll rotating shaft direction on guide rolls by the traversing of a traverse guide, the fiber bundle does not skip on the final guide roll, whereby a stable yarn path can be achieved. This is in contrast to past efforts wherein, in a traversing system, a theory regarding the traveling stability of a fiber bundle pulled in a direction of the roll rotating shaft has not been known.

Claim 11, however, by constituting a traverse guide with such requirements that satisfy all of constituent features (a) to (e), namely (a) an upper guide roll of which the roll rotating shaft is arranged at a position twisted substantially at a right angle to the bobbin rotating shaft; (b) a final guide roll of which roll rotating shaft is arranged substantially parallel to the bobbin rotating shaft; (c) the upper guide roll and the final guide roll are arranged, respectively, so that the roll rotating shaft direction of the guide roll and the yarn path direction entering the guide roll have a positional relation twisted substantially at a right angle; (d) the length of the final guide roll in contact with the fiber bundle is 15 mm or more; and (e) outer diameter of the final guide roll is in a range of 22 mm to 30 mm, it was found that, with no skip of a fiber bundle on the final guide roll, the yarn path is stabilized.

It is thus possible that the fiber bundle does not skip on the final guide roll, whereby the effect that there is no twist generated in the fiber bundle is achieved. Further, traditionally, it has been intended that downsizing of a traverse guide to be assembled in a takeup machine causes a reciprocating motion for traversing. For this reason, a guide roll with a small diameter has been used

(for example, in Nojiri, the diameter of the guide roll is 15 mm (column 8, line 55)). To this end, it is common sense to naturally set the length of the roll in contact with the fiber bundle to be short.

However, in contrast to that approach, the Applicants went in the opposition direction and, by using a final guide roll having an outer diameter in a range of 22 mm to 30 mm, the Applicants kept the length of the guide roll in contact with a yarn path at 15 mm or more. As a result, with no skip of the fiber bundle on the final guide roll, that is, with no twist generated in the fiber bundle, they surprisingly found that the yarn path is stabilized.

The Applicants therefore respectfully submit that the Applicants' Claim 11 contains the subject matter nowhere disclosed, taught or suggested by Nojiri. Moreover, the Applicants established they achieved an unexpected result by defying traditional thinking and proceeded in an opposite direction with respect to the contact and, therefore, Nojiri is inapplicable and does not render Claim 11 obvious. Withdrawal of the rejection is respectfully requested.

Claim 13 stands rejected under 35 USC §103 over the hypothetical combination of Nakai with Nojiri. The Applicants again note with appreciation the Examiner's detailed comments hypothetically applying Nakai and Nojiri against Claim 13. The Applicants respectfully submit, however, that Nakai fails to cure the deficiency set forth above with respect to Nojiri. Thus, the combination is inapplicable against Claim 13. Withdrawal of the rejection is respectfully requested.

Claims 14 and 15 stands rejected under 35 USC §103 over the hypothetical combination of Rauchfuss with Nojiri. The Applicants again note with appreciation the Examiner's detailed comments hypothetically applying Rauchfuss and Nojiri against Claims 14 and 15. The Applicants respectfully submit, however, that Rauchfuss fails to cure the deficiency set forth above with respect to Nojiri. Thus, the combination is inapplicable against Claims 14 and 15. Withdrawal of the rejection is respectfully requested.

Claims 1-2, 4-8, 10 and 16-20 stand rejected under USC §103 over the combination of Rauchfuss with Nojiri. The Applicants again note with appreciation the Examiner's comments with respect to the combination. The Applicants nonetheless respectfully submit that even if one skilled in the art were to make the hypothetical combination, the result of that combination would still be a structure that is quite different from what the Applicants claim in Claims 1-2, 4-8, 10 and 16-20.

The Applicants' amendment to Claim 1 clarifies the definition of the angles  $\alpha$  and  $\beta$ . That is,  $\alpha$  is defined as an angle between the rotating shaft of the supporting member that supports a guide roll and the original yarn path entering the guide roll, and  $\beta$  is defined as an angle between the

rotating shaft of the supporting member that supports a guide roll and the original yarn path coming out of the guide roll.

More particularly, by reciting that an angle between the rotating shaft of the supporting member that supports a guide roll and the original yarn path entering the guide roll, two angles of both  $\alpha$  and  $\alpha'$  in Fig. 1 of the attached reference drawing are considered. Similarly, when saying that an angle between the rotating shaft of the supporting member that supports a guide roll and the original yarn path coming out of the guide roll, two angles of both  $\beta$  and  $\beta'$  in Fig. 1 are considered.

In any event, this clarifies the angles  $\alpha$ ,  $\beta$ , in Fig. 1, in which the guide roll is disposed. Therefore, with the range of " $\alpha + \beta < 180^\circ$ ," the definition of  $\alpha$  and  $\beta$  is made clear.

This clarification also clarifies the differences over Nojiri. In particular, Nojiri fails to disclose, teach or suggest the obtuse angle as helpfully noted in the rejection. In that case, the angles  $\alpha$  and  $\beta$  would be in the relationship of  $\alpha + \beta > 180^\circ$ . However, this is the opposite of the Applicants' claimed relationship of  $\alpha + \beta < 180^\circ$ . Inasmuch as the Applicants claim a relationship in the opposite direction of that taught by Nojiri, the Applicants respectfully submit that Nojiri would actually lead one skilled in the art away from the Applicants' subject matter as recited in Claims 1-2, 4, 5, 7, 8, 10 and 16-20.

When that claimed angle relationship is combined with the  $\alpha < \beta$  relationship, the differences over Nojiri become clearer still. That difference is discussed in detail in the Applicants' specification in paragraph [0046].

The Applicants further respectfully submit that even if one skilled in the art were to hypothetically combine Rauchfuss with Nojiri, such a combination would not cure the deficiencies set forth above with respect to Nojiri and would not cure the teaching away from the Applicants' claimed subject matter as Nojiri does.

With respect to Claim 2, it recites that the rotating shaft of the supporting member crosses the original yarn path at one portion. This excludes each of the two cases: 1) crossing at two portions; and 2) non-crossing in enclosed Fig. 2.

The Applicants' amendment to Claim 1 clarifies the definition of the angles  $\alpha$  and  $\beta$ . That is,  $\alpha$  is defined as an angle between the rotating shaft of the supporting member that supports a guide roll and the original yarn path entering the guide roll, and  $\beta$  is defined as an angle between the rotating shaft of the supporting member that supports a guide roll and the original yarn path coming out of the guide roll.

More particularly, by reciting that an angle between the rotating shaft of the supporting member that supports a guide roll and the original yarn path entering the guide roll, two angles of both  $\alpha$  and  $\alpha'$  in Fig. 1 of the attached reference drawing are considered. Similarly, when saying that an angle between the rotating shaft of the supporting member that supports a guide roll and the original yarn path coming out of the guide roll, two angles of both  $\beta$  and  $\beta'$  in Fig. 1 are considered. In any event, this clarifies the angles  $\alpha$ ,  $\beta$ , in Fig. 1, in which the guide roll is disposed. Therefore, with the range of " $\alpha + \beta < 180^\circ$ ," the definition of  $\alpha$  and  $\beta$  is made clear. Therefore, the Applicants respectfully submit that the hypothetical combination is inapplicable to Claims 1-2, 4, 5, 7, 8, 10 and 16-20. Withdrawal of the rejection is respectfully requested.

Inasmuch as Claim 21 is new, no prior art has been applied against that claim. However, since new Claim 21 is based to a large degree on cancelled Claim 6, the Applicants will address that claim as well. In that regard, the Applicants respectfully submit that Nojiri and Rauchfuss are inapplicable to Claim 21 whether taken individually or collectively.

Although Rauchfuss is configured into a two-rolls set, Claim 21 is configured into a single roll function by an upper guide roll alone. Essentially, the traverse guide has the function of causing reciprocating motion for traversing a yarn and, therefore, light weight is achieved. Accordingly, such a configuration that uses two rolls in a set which leads to an upsizing of a guide as in Rauchfuss is not desirable.

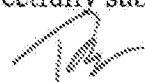
Rauchfuss functionally requires that two rolls are used in one set and the roll rotating shaft of the roll is arranged on the upstream side in the web traveling direction with respect to the rotating shaft of the supporting member.

Fig. 3(a) of the attached drawing shows Rauchfuss' disclosure in which the roll rotating shaft of the roll is arranged on the upstream side in the web traveling direction, and in that case, a deviation from the traveling position is adjusted by roll inclination. However, as the rejection (of Claim 6) points out, in the case that the roll rotating shaft of the roll is arranged on the downstream side in the web traveling direction, as shown in Fig. 3(b) of the attached drawing, the web traveling position is unstabilized. As a result, a deviation from the traveling position is generated and, accordingly, the advantageous effect of Claim 21 cannot be achieved.

In Claim 21, the roll rotating shaft of the upper guide roll is arranged on the downstream side of the yarn path with respect to the rotating shaft of the supporting member. This enables the fiber bundle deviating from the yarn path to be guided in the original yarn path direction. Such a configuration cannot be attained, even if Nojiri is combined with Rauchfuss.

In light of the foregoing, the Applicants respectfully submit that the entire application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



T. Daniel Christenbury  
Reg. No. 31,750  
Attorney for Applicants

TDC/vbm  
(215) 656-3381